

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
15 December 2005 (15.12.2005)

PCT

(10) International Publication Number  
**WO 2005/119259 A2**

(51) International Patent Classification<sup>7</sup>: **G01N 33/564**

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(21) International Application Number:  
**PCT/US2005/014182**

(22) International Filing Date: 25 April 2005 (25.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/565,680 26 April 2004 (26.04.2004) US

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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POPULATION BASED PREDICTION METHODS FOR IMMUNE RESPONSE DETERMINATIONS AND METHODS FOR VERIFYING IMMUNOLOGICAL RESPONSE DATA

Protein	nM IC <sub>50</sub> For Binding To Purified HLA									
	DRB1	DRB2	DRB3/4/5	DRB4/5	DRB5/6	DQ1	DQ2	DQ3	DQ4	DQ5
BPN'Y217L..70	6.5	8737	33	5.7	166	154	1711	46	2382	80
BPN'Y217L..109	8.8	—	30	166	37	58	2192	43	3019	1235
B. lentinus 157	1065	16,433	4794	7575	6784	724	>16,333	1484	—	—
B. lentinus .160	13	—	142	5542	1348	138	2033	164	5554	—

DRB1		DRB3/4/5			DQ			Degeneracy
*1302 (DR6w19)	*1501 (DR2w2β1)	*DRB3*0101 (DR52a)	*DRB4*0101 (DRw53)	*DRB5*0101 (DR2w2β2)	DQA1*0501/ DQB1*0201 (DQ2)	DQA1*0301/ DQB1*0301 (DQ3.1)	DQA1*0301/ DQB1*0302 (DQ3.2)	n/18
0.69	21	2010	31	15,689	670	440	2069	12
9.8	683	119	1071	1024	97	2182	80	11
2009	865	>9434	>9667	—	6157	6009	5009	2
559	127	6157	8257	1726	1296	63	1046	7

WO 2005/119259 A2

(57) Abstract: The present invention provides means to assess immune response profiles of populations. In particular, the present invention provides means to qualitatively assess the immune response of human populations, wherein the immune response directed against any protein of interest is analyzed. The present invention further provides means to rank proteins based on their relative immunogenicity. In further embodiments, the present invention provides means for verifying immunological response data, as well as means for predicting immune responses directed against any antigen/immunogen. In addition, the present invention provides means to create proteins with reduced immunogenicity for use in various applications.